

Applicants : Brent J. Bos et al.
For : INTERIOR REARVIEW MIRROR SYSTEM INCLUDING
A FORWARD FACING VIDEO DEVICE
Page : 7

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the present application:

1-102 (canceled).

103 (new): An interior rearview mirror system suitable for use in a vehicle, said interior rearview mirror system comprising:

an interior rearview mirror assembly adapted for attachment to an interior portion of the vehicle, said interior rearview mirror assembly comprising an electrochromic reflective element;

electronic circuitry operable to control said electrochromic reflective element;

an imaging sensor positioned with a field of view through a window of the vehicle;

a rain sensor control responsive to an output signal of said imaging sensor, said rain sensor control being operable to control at least one of a windshield wiper of the vehicle and a defogging system of the vehicle in response to said output signal;

a headlamp control responsive to an output signal of said imaging sensor, said headlamp control being operable to control a headlamp of the vehicle in response to said output signal; and

wherein said rain sensor control and said headlamp control at least one of (a) access a common component of said electronic circuitry, and (b) share a common component of said electronic circuitry.

104 (new): The interior rearview mirror system of claim 103, wherein said imaging sensor is positioned at or near said interior rearview mirror assembly and has a field of view forward and through a windshield of the vehicle.

105 (new): The interior rearview mirror system of claim 103, wherein said imaging sensor comprises first and second imaging sensors, said rain sensor control being operable in

Applicants : Brent J. Bos et al.
For : INTERIOR REARVIEW MIRROR SYSTEM INCLUDING
A FORWARD FACING VIDEO DEVICE
Page : 8

response to an output signal from said first imaging sensor and said headlamp control being operable to an output signal from said second imaging sensor.

106 (new): The interior rearview mirror system of claim 105, wherein said first imaging sensor is positioned at a housing for center high mounted stop lamp of the vehicle, said first imaging sensor having a field of view through a rear window of the vehicle.

107 (new): The interior rearview mirror system of claim 105, wherein said second imaging sensor is positioned at or near said interior rearview mirror assembly, said second imaging sensor having a field of view forward and through a windshield of the vehicle.

108 (new): The interior rearview mirror system of claim 103, wherein at least a portion of said electronic circuitry is included on a printed circuit board.

109 (new): The interior rearview mirror system of claim 103, wherein said electronic circuitry includes at least one of a remote keyless entry receiver, a microphone, a digital voice recorder, a vehicle status indicator and a display element.

110 (new): The interior rearview mirror system of claim 103, wherein said electronic circuitry is associated with a display element.

111 (new): The interior rearview mirror system of claim 110, wherein said display element comprises at least one of a vehicle status display, a blind spot indicator display, a compass display, a temperature display, a tire inflation status display, a passenger side inflatable restraint status display, an automatic rain sensor display, a telephone dial information display, and a highway status information display.

112 (new): The interior rearview mirror system of claim 110, wherein said display element provides at least two display functions.

Applicants : Brent J. Bos et al.
For : INTERIOR REARVIEW MIRROR SYSTEM INCLUDING
A FORWARD FACING VIDEO DEVICE
Page : 9

113 (new): The interior rearview mirror system of claim 112, wherein said display element may be selectively operable to provide one of said at least two display functions.

114 (new): The interior rearview mirror system of claim 113, wherein said display element may be selectively switched between said at least two display functions in response to at least one of a voice command, a user input, a timing device and a vehicle status change.

115 (new): The interior rearview mirror system of claim 103, wherein the window comprises a windshield of the vehicle, said headlamp control being operable to control a headlamp of the vehicle in response to a level of light present at the windshield.

116 (new): The interior rearview mirror system of claim 103, wherein said rain sensor control is operable to process said output signal to detect water droplets at the exterior surface of the window and fog particles at the interior surface of the window.

117 (new): The interior rearview mirror system of claim 116, wherein said rain sensor control is operable to control a window wiper of the vehicle in response to the presence of water droplets at the exterior surface of the window and to control a defogging system of the vehicle in response to the presence of fog particles at the interior surface of the window.

118 (new): The interior rearview mirror system of claim 103, wherein said rain sensor control is operable to detect water droplets at an exterior surface of the window, said rain sensor control being operable to control a window wiper of the vehicle in response to said detection of water droplets at the exterior surface of the window.

119 (new): The interior rearview mirror system of claim 118, wherein said rain sensor control is operable to adjust a rate of wipe of the window wiper of the vehicle.

Applicants : Brent J. Bos et al.
For : INTERIOR REARVIEW MIRROR SYSTEM INCLUDING
A FORWARD FACING VIDEO DEVICE
Page : 10

120 (new): The interior rearview mirror system of claim 119, wherein said rain sensor control is operable to adjust the rate of wipe in response to a quantity of the water droplets sensed at the exterior surface of the window.

121 (new): The interior rearview mirror system of claim 119, wherein the window wiper comprises a windshield wiper of the vehicle, said rain sensor control being operable to control a rear window wiper of the vehicle.

122 (new): The interior rearview mirror system of claim 121, wherein said rain sensor control is operable to control said rear window wiper in response to said detection of water droplets at the exterior surface of the windshield.

123 (new): The interior rearview mirror system of claim 122, wherein said rain sensor control causes said rear window wiper to cycle for every N cycles of said windshield wiper, wherein N is greater than one.

124 (new): The interior rearview mirror system of claim 123, wherein the value of N varies as a function of the speed of said windshield wiper.

125 (new): The interior rearview mirror system of claim 103 including an illumination device for illuminating at least a portion of the field of view of said imaging sensor.

126 (new): The interior rearview mirror system of claim 125, wherein said illumination device is at least occasionally activated.

127 (new): The interior rearview mirror system of claim 125, wherein said imaging sensor is operable to sense a level of ambient light present at the windshield, said illumination device being activated in response to said imaging sensor sensing low light conditions.

Applicants : Brent J. Bos et al.
For : INTERIOR REARVIEW MIRROR SYSTEM INCLUDING
A FORWARD FACING VIDEO DEVICE
Page : 11

128 (new): The interior rearview mirror system of claim 127, wherein said headlamp control is operable to control a headlamp of the vehicle in response to said imaging sensor sensing low light conditions.

129 (new): The interior rearview mirror system of claim 103, wherein said imaging array sensor comprises a pixelated imaging array sensor.

130 (new): The interior rearview mirror system of claim 129, wherein said imaging sensor comprises one of a CMOS or a CCD sensor.

131 (new): The interior rearview mirror system of claim 103 including a polarizing filter at said imaging sensor, said polarizing filter being at least occasionally positionable between said imaging sensor and the window, said polarizing filter being operable to attenuate light.

132 (new): The interior rearview mirror system of claim 103, wherein said rain sensor control is operable to apply an edge detection algorithm to said output signal to detect edges of rain droplets on a surface of the window.

133 (new): The interior rearview mirror system of claim 103, wherein said rain sensor control is operable to apply a filtering or smoothing algorithm to said output signal to reduce the effects of scratches on the window of the vehicle.